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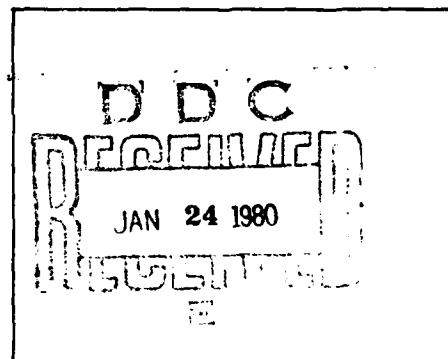
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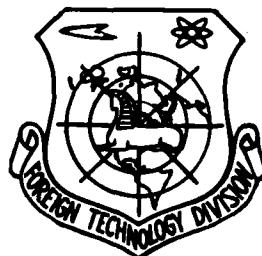
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FOREIGN TECHNOLOGY DIVISION



IZhEVSKIY PETROLEUM EQUIPMENT PLANT



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EDITED TRANSLATION

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IZhEVSKIY PETROLEUM EQUIPMENT PLANT

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Planomernogo Tekhnicheskogo
Perevooruzheniya i Vnedreniya Nauchnoy
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FOREIGN TECHNOLOGY DIVISION
WP-AFB, OHIO.

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Date 2 Apr 1979

U. S. BOARD ON GEOGRAPHIC NAMES TRANSLITERATION SYSTEM

Block	Italic	Transliteration	Block	Italic	Transliteration
А а	А а	A, a	Р р	Р р	R, r
Б б	Б б	B, b	С с	С с	S, s
В в	В в	V, v	Т т	Т т	T, t
Г г	Г г	G, g	Ү ү	Ү ү	U, u
Д д	Д д	D, d	Ф ф	Ф ф	F, f
Е е	Е е	Ye, ye; E, e*	Х х	Х х	Kh, kh
Ж ж	Ж ж	Zh, zh	Ц ц	Ц ц	Ts, ts
З з	З з	Z, z	Ч ч	Ч ч	Ch, ch
И и	И и	I, i	Ш ш	Ш ш	Sh, sh
Й й	Й й	Y, y	Щ щ	Щ щ	Shch, shch
К к	К к	K, k	Ь ь	Ь ь	"
Л л	Л л	L, l	Ы ы	Ы ы	Y, y
М м	М м	M, m	Ծ ծ	Ծ ծ	'
Н н	Н н	N, n	Э է	Է է	E, e
Օ օ	Օ օ	O, o	Ւ ւ	Ւ ւ	Yu, yu
Պ պ	Պ պ	P, p	Յ յ	Յ յ	Ya, ya

*ye initially, after vowels, and after ь, և; e elsewhere.
When written as ё in Russian, transliterate as yё or ё.

RUSSIAN AND ENGLISH TRIGONOMETRIC FUNCTIONS

Russian	English	Russian	English	Russian	English
sin	sin	sh	sinh	arc sh	sinh^{-1}
cos	cos	ch	cosh	arc ch	cosh^{-1}
tg	tan	th	tanh	arc th	tanh^{-1}
ctg	cot	cth	coth	arc cth	coth^{-1}
sec	sec	sch	sech	arc sch	sech^{-1}
cosec	csc	csch	csch	arc csch	csch^{-1}

Russian	English
rot	curl
lg	log

DOC = 0338

PAGE 1

0338

IZhEVSKIY PETROLEUM EQUIPMENT PLANT

**Central Planning, Design, and Technological Office of Scientific
Organization of Production, Labor, and Administration**

**TWOFOLD INCREASE IN PRODUCTION EFFECTIVENESS OF IZhEVSKIY PETROLEUM
EQUIPMENT PLANT BASED ON SYSTEMATIC TECHNICAL CONVERSION OF EQUIPMENT
AND INTRODUCTION OF SCIENTIFIC ORGANIZATION OF PRODUCTION LABOR AND
ADMINISTRATION IN 1975.**

MOSCOW - 1971

The present material represents the working document for the Izhevskiy Petroleum Equipment Plant and the TSPKTB NOT [Central Planning, Design, and Technological of Scientific Organization of Labor], which are jointly carrying out an integrated technological

study on the introduction of scientific organization of production, labor, and administration (NOPTU) for the purpose of a twofold increase in production effectiveness in 1975 as compared to that of 1970.

[Presented below are] the main methodological principles for complex technical conversion of equipment and planning of NOPTU along with the organizational documents which precede the set of studies on analysis of the level of organization of production, labor, and administration, the technological indicators of the existing production, and the determination of the organization levels.

The job of coordination and overall technical direction of the operations is carried out by chief project designer for TSPKTB NOT, A. I. Nosenko and V. P. Mochenov, who is the assistant chief plant engineer of Izhneftemash [Izhevskiy Petroleum Equipment Plant].

The main organizers of the project covering the entire complex of technological conversion of equipment and NOPTU are, from TSPKTB, Chief Engineer B. V. Kolyvanov, assistant science chief R. G. Manilovskiy, from the Izhneftemash - chief engineer B. S. Bolctov and assistant economics direction G. A. Mycin. The order of deadlines for the studies, team compositions, and team interactions, are controlled by a joint order of Izhneftemash and TSPKTB NOT of 23 March, No

129/48.

ORDER FORM

Izhevskiy Petroleum Equipment Plant and Central Planning, Design, and Technological Office of Scientific Organization of Production, Labor, and Administration

No 129/48

1. Izhevsk

23 March 1971

For the purpose of taking measures to increase production effectiveness based on a systematic technological conversion of equipment and introduction of scientific organization of production, labor, and administration, guided by the agreement on cooperation of the collectives of the "Iznefte mash" Plant and the TSPKTB NOT.

IT IS ORDERED THAT: 1. That the list of operations and items

subject to planning in 1971-1972 be confirmed along with the composition of integrated teams (appendices 1 and 2).

2. That the appointed directors for the integrated project of scientific organizations of production, labor, and administration for the "Izhnefte mash" Plant be, from TSPKTB NOT, chief project designer A. I. Nosenko and chief assistant engineer V. P. Mochenov from the plant.

3. That the appointed directors of the integrated teams be:
Comrades A.P. Lankov, O.N. Dmitryuk, A.M. Brovnikova, D.M. Sirotkina,
V.I. Khersonskiy, V.A. Karapnitskiy, B.P. Prigarin, V.A. Vinogradov,
V.V. Denisov, Yu.V. Fedorova, Ya.L. Tertelya, M.V. Nasonova, A.Ya.
Gus'kova, D.B. Kontorova, A.M. Rumyantsev, A.F. Smyk, A.v.
Zelenetskiy, O.M. Mayorov, A.L. Snister, A.I. Shakter, Ye.N.
Abramovich, R Kirshenshteyn, G.K. Shvyryayev, V.I. Khvoshchevskiy,
L.A. Shiklova.

4. That personal responsibility for technical direction of the work of the brigades, meeting of work deadlines, and timely provision of necessary materials in the planning stage be entrusted to the following chief specialists and division chiefs of TSPKTB NOT:

[Translator note: Many

names in following series illegible on original text. First name illegible], N.P. Pikash, G.K. Keshetnikov, A.B. Okhlyand, A.A. Shagilov, G.I. Subbotin, L.A. [illegible], E.L. Lura, V.I. Kharchenko, A.I. Khakhina, V.A. [illegible], [illegible], A.S. Eyler, G.M. Reulov, V.M. [illegible] N.I. Zavoronskaya, A.I. Ushakov, A.N. Rumyantsev; These include the following chief specialists, shop foremen, department heads: G.A. Mysin, A.G. Ushakov, L.M. Shuchumashev, I.F. Degtyarev, O.V. Zlygostev, V.A. Voron'ko, I.P. Belov, B.B. Shutenko, S.I. Karachev, V.P. Fil'ney, Yu.D. Chrakov, V.N. Luchnikov, V.A. Takachev, B.V. Korshunov, A.P. Khalyavin, A.N. Molchanov, V.S. Gydrymov, I.I. Klimenko, N.A. Krasnoperov, K.A. Zaykin, I.P. Krayev, R.B. Sumov, N.M. Kusayko, V.Ya. Shayev, Yu.Ye. Dokuchayev.

5. The following requirements are made of the chief project designers, leaders of integrated teams, heads of divisions, chief specialists of TsPKTB NOT, and shop foremen and division heads of "Izhneftemash":

a) In carrying out operations on integrated technical equipment conversion and introduction of NOPTU, to be guided by the chart for technical-economic level and development of the plant, the technical assignment (appendix 3) and methodological materials of "System of increasing production effectiveness based on systematic technical

equipment conversion of enterprises and introduction of scientific bases into organization of production, labor, and administration," developed by TSPKTB NOT (parts 1, 2, 3, and 4);

b) in developing technical proposals for conversion and NOPTU to use progressive experience in conjunction with appendix 4;

c) To develop standard normative levels of technical, economic, and organizational indicators for sections, shops, and the plant as a whole, based on the TEU [Technical and Economic Standards] chart and year-by-year development according to appendices 5 and 6;

d) In analyzing the level of organization of production and in developing the integrated project of equipment conversion and NOPTU to be guided by the scheme (appendix 7);

e) To determine level of organization production, labor, and administration, list services of those responsible for the measuring, accounting, calculation, and compilation of indicators in accordance with the order indicated in appendix 8.

6. Chief engineers B. V. Kolyvanov (TSPKTB NOT) and B. S. Bolotov (Izhneftemash) must within one month after confirmation of technical proposals develop and present for confirmation charts

showing completion of working projects, production of all types of necessary equipment and nonstandard equipment, and introduction of these projects into production.

7. Organization of the work and monitoring completion of the present order has been entrusted through TSPKTB NOT to chief engineer B. V. Kolyvanov and assistant chief of division No 02 V. A. Tsepikov, through the plant - to chief engineer V. S. Bolotov and assistant economics director G. A. Mycina.

8. Division chiefs, chief specialists of TSPKTB NOT, shop foremen, heads of divisions, and plant specialists are to proceed on the development of the integrated plan for technical conversion of equipment and NOPTU.

Head of TSPKTB NOT P. Serov, Candidate of Economic Sciences

Director of "Izhneftemash" Plant V. Yemel'yanov.

Appendix No 1 to order for "Izneritemash" Plant and TSPKTB NOT of 23
March No 129/48

**LIST OF OPERATIONS AND ITEMS IN PLAN FOR TECHNICAL CONVERSION OF
EQUIPMENT AND NOPTU [Scientific Organization of Production, Labor,
and Administration] for 1971-1972.**

№ п/п	Элементы производства, входящие в объекты проектирования и по основным функциям общеподсобных работ	Объекты проектирования и выполнение (НОП и завод)														
		1. Объекты проектирования № 7, 9 и 10			2. Объекты рабочих цехов № 2 и 4			3. Объекты технического обслуживания производственных цехов			4. Помещения для хранения и обработки материалов			5. Ремонтные цеха и главные ремонтные работы		
		3a	3b	3c	4a	4b	4c	5a	5b	5c	6a	6b	6c	7a	7b	7c
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	

2 Повышение эффективности технической части

1. 2.1. Повышение уровня использования производственных помещений	12.17	-	12.17	-	12.26	-	12.24	-	12.14	-	12.10	-	12	-
2. 2.2. Повышение уровня использования оборудования	17	-	17	-	26	-	24	-	14	-	10	-	-	-

Key: 1 - №. 2 - Production elements which enter into plan objects and sliding functions of overall plant operations. 3a - Objects of production and executors (TSPKTB NOT and plant). 3b - mechanical treatment shops Nos. 7, 9, and 10. 3c - TSPKTB NOT. 4 - plant. 5a mechanical treatment shops Nos. 8 and 12. 7a - preliminary stamping production shop Nos. 2 and 4. 9a - tool shops Nos. 11, 16. 11a - heat and electroplating shops No. 42. 13a - main division of mechanics and power engineering. 15a - overall plant functions (operations). 2. Increasing effectiveness of technical aspect. 1. 2.1. Increasing utilization level of work space. 2. 2.2. Increasing utilization level of equipment.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
3. 2. 3. Повышение уровня использования транспортных коммуникаций	21.17	21.17	21.26	—	—	—	—	—	—	21.14	21.10	21	—	—	—	—
4. 2. 4. Увеличение производственных мощностей	12.17	12.17	12.26	12.21	—	—	—	—	—	12.10	12.10	12	—	—	—	—
5. 2. 5. Повышение конкуренции способности и технического уровня выпускаемой продукции	17	—	17	—	26	—	24	—	—	14	—	—	—	—	—	3.3
6. 2. 6. Товары - товары на розничный потребление	29.17	—	29.17	—	—	29.26	—	29.24	—	29.14	—	—	—	—	—	3.3
7. 2. 7. Повышение надежности и долговечности	17	—	17	—	26	—	24	—	—	14	—	28	3.3	—	—	—
3. Повышение эффективности технологической части уровня	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8. 3.1. Совершенствование модельного производства	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9. 3.2. Совершенствование отливочного производства	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10. 3.3. Совершенствование кузнечно-прессового и штамповочного производств	26.17	26.17	26	—	—	—	—	—	—	—	—	—	—	—	—	—

Key continued: 3. 2.3. Increasing utilization level of transport links. 4. 2.4. Increasing productive capacities. 5. 2.5. Increasing competitiveness and technical level of items produced. 6. 2.6. Increasing competitiveness and technical level of consumer goods. 7. 2.7. Increasing level of reliability and life. 3. Increasing effectiveness of technological aspects of level. 8. 3.1. Improving model production. 9. 3.2. Increasing casting production. 10. 3.3. Increasing forge press and stamping production.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
11	3.4. Совершенствование котельно-заготовительного производства					26.14							26.14		
12	3.5. Совершенствование механического обработывающего производства	17		17			20			10.28					
13	3.6. Совершенствование механического сборочного производства	17		17									17		
14	3.7. Совершенствование котельно-сварочного производства	14		14		14		14							
15	3.8. Совершенствование химико-термических работ	14		14			14		14						
16	3.9. Совершенствование гальваникопокрытий									19			19		
17	3.10. Совершенствование покрасочного производства	19		19									19		
18	3.11. Совершенствование организации инструментального хозяйства	20		20		20		20			20		20		
19	3.12. Совершенствование организации ремонтного хозяйства	10		10		10		10		10		10		10	

Key continued: 11. 3.4. Improving boiler and billet production. 12. 3.5. Improving mechanical treatment process. 13. 3.6. Improving mechanical assembly process. 14. 3.7. Improving boiler-welding process. 15. 3.8. Improving thermochemical operations. 16. 3.9. Improving electroplating. 17. 3.10. Improving painting operations. 18. 3.11. Improving organization of tool management. 19. 3.12. Improving organization of repairs.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
20	3.13. Совершенствование перепречинных работ	—	—	—	—	—	—	—	—	10	—	10	—	—	—
21	3.14. Совершенствование контрольно - испытатель- ных работ	10	10	10	—	10	—	10	10	—	10	—	—	—	—
22	3.15. Совершенствование упаковочных работ	21	21	—	21	—	21	—	—	—	21	—	—	—	—
23	3.16. Совершенствование организации погрузочно- разгрузочных складских работ	21	21	21	—	21	—	21	21	21	—	21	—	—	—
24	3.17. Совершенствование организации внутривоз- ского транспорта	21	21	21	—	21	—	21	21	21	21	21	—	—	—
25	3.18. Совершенствование сбора, транспортировки и переработки металличес- кой стружки и металло- отходов	21	21	21	—	21	—	21	21	21	21	21	—	—	—
26	3.19. Совершенствование уборки цехов и террито- рий,	21	21	21	—	21	—	21	21	21	21	21	—	—	—
27	3.20. Проектирование технологической оснаст- ки, оргтехники, нестан- дартизированного оборо- жения и др. средств	17	—	17	—	26	—	24	1419	—	28	—	—	—	—

Key continued: 20. 3.13. Improving power repair operations. 21. 3.14.

Improving monitoring and testing operations. 22. 3.15. Improving packing ooperations. 23. 3.16. Improving organization of loading-unloading storage operations. 24. 3.17. Improving organization of intraplant transport. 25. 3.18. Improving assembly, transport, and processing of metal chips and metal scrap. 26. 3.19. Improving layout of shops and areas. 27. 3.20. Planning of technological and organizational equipment, nonstandard equipment, and other facilities.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
28.	3.21. Репликация технической документации	10	—	10	—	10	—	10	—	10	—	10	—	10	—
29.	4. Повышение уровня эффективности экономической части	—	—	—	—	—	—	—	—	—	—	—	—	—	—
30.	4.1. Совершенствование нормирования материальных ресурсов на производство продукции	14	—	10	—	14	—	10	—	14	—	14	—	14	—
31.	4.2. Совершенствование нормирования материальных ресурсов на ремонтно-эксплуатационные нужды	14	—	10	—	14	—	14	—	10	—	14	—	14	—
32.	4.3. Нормирование хозяйственных отчетений между участками и цехами	14.10	—	14.10	—	14.10	—	14.10	—	14.10	—	14.10	—	14.10	—
		14.24	—	14.24	—	14.24	—	14.24	—	14.24	—	14.24	—	14.24	—
33.	4.4. Нормативы надежности долговечности выпускаемой продукции	—	—	—	—	—	—	—	—	—	—	—	—	—	—
34.	4.5. Нормативы рентабельности и себестоимости	13	—	13	—	13	—	13	—	13	—	13	—	13	—

Key continued: 2. 3.21. Duplication of technical documentation. 29.

4. Increasing efficiency level of economics aspects. 30. 4.1.

Improving standardization of material resources for products. 31.

4.2. Improving standardization of material resources for repair and operational needs. 32. 4.3. Standardization of management and accounting transactions between sections and shops. 33. 4.4.

Standards for reliability of life of product. 34. 4.5. Standards for profitability and cost.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
35	4.6. Нормативы материального поощрения за режим экономии	13	13	13	13	13	13	13	13	13	13	13	13	13	--
36	5. Повышение уровня организационно-социальной части														
37	5.1. Совершенствование внутривнештадской специализации	21,17	21,17	--	26	--	24	10		21	--				
38	5.2. Совершенствование технической подготовки производства	10	10	--	10	--	10	10	10	10	--	10	--		
39	5.3. Совершенствование материально-технического снабжения производства	13	13	--	13	--	13	13	13	13	--	13	--		
40	5.4. Оперативное производственное планирование, учет иdispatchирование	10	10	10	10	10	10	10	10	10	--	10	--		
41	5.5. Совершенствование технического контроля	10	10	10	--	10	10	10	10	10	--	10	--		
42	5.6. Совершенствование технико-экономического планирования	13	13	--	13	--	13	13	13	13	--	13	--		

Key continued; 35. 4.6. Standards for encouraging savings. 36. 5.

Increasing level of organizational and social aspect. 37. 5.1.

Improving intraplant specialization. 38. 5.2. Improving technical

production preparation. 39. 5.3. Improving material and technical

supply to production. 40. 5.4. Operational-production planning,

accounting, and dispatching. 41. 5.5. Improving technical monitoring.

42. 5.6. Improving technical and economic planning.

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
43	5.7. Совершенствование внутриматочного хозяйственного расчета	11	11	11	11	11	11	11	11	11	11	11	11	11	—
44	5.8. Совершенствование финансовой работы предприятия	13	13	13	13	13	13	13	13	13	13	13	13	13	—
45	5.9. Совершенствование организации и механизации учетно-бухгалтерских работ	11	—	11	11	11	11	11	11	11	11	11	11	11	—
46	5.10. Снижение себестоимости продукции	13	13	—	13	13	13	13	13	13	13	13	13	13	—
47.	5.11. Совершенствование организационной структуры управления	10	10	10	10	10	10	10	10	10	10	10	10	10	—
48.	5.12. Автоматизированная система управления производством	—	13	13	13	13	13	13	13	13	13	13	13	13	—
49.	5.13. Совершенствование организации обслуживания рабочих мест	10.17	10.17	10.17	10.21	10.14	10	10	10	10	10	10	10	10	—
50.	5.14. Совершенствование нормирования труда	10	10	10	10	10	10	10	10	10	10	10	10	10	—
51.	5.15. Совершенствование планирования индивидуального и коллективного труда	10	10	10	10	10	10	10	10	10	10	10	10	10	—

Key continued: 43. 5.7. Improving intraplant accounting. 44. 5.8.

Improving financial operation of enterprise. 45. 5.9. Improving organization and mechanization of accounting and bookkeeping operations. 46. 5.10. Reducing cost of production. 47. 5.11. Improving organizational structure of administration. 48. 5.12. Automated production control system. 49. 5.13. Improving organization of service to working stations. 50. 5.14. Improving standardization of labor. 51. 5.15. Improving planning of individual and collective labor.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
52	5.16. Совершенствование системы оплаты индивидуального и коллективного труда	10	-	10	-	10	10	10	10	-	10	-	-	-	-
53	5.17. Совершенствование измерений и учета организации труда	10	10	-	10	10	10	10	10	-	10	-	-	-	-
54	5.18. Повышение квалификации кадров	10	х.х.	-	-										
55	5.19. Совершенствование приемов и методов труда	10	х.х.	-	-										
56	5.20. Совершенствование разделения и кооперации труда	10	10	-	10	10	10	10	-	-	-	10	-	-	-
57	5.21. Совершенствование материальных поощрений работавших	13	-	13	-	13	13	13	13	-	13	-	13	-	-
58	5.22. Совершенствование стимулирования работников	10	10	-	10	10	10	10	10	-	10	-	10	-	-
59	5.23. Повышение творческой активности работников	10	х.х.	-	-										
60	5.24. Совершенствование организации научно-технической информации	-	х.х.	-	-										

Key continued: 52. 5.16. Improving wage system for individual and collective labor. 53. 17. Improving measurement and accounting of organization of labor. 54. 5.18. Increasing workers' skills. 55. 5.19. Improving means and methods of labor. 56. 5.20. Improving division and cooperation of labor. 57. 5.21. Improving material rewards to workers. 58. 5.22. Improving encouragement of workers. 59. 5.23. Increasing creativity of workers. 60. 5.24. Improving organization of scientific and technical information.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
61	5.25. Совершенствование организации патентно-лицензионной работы		—	—	—	—	—	—	—	—	—	—	—	—	—
62	5.26. Повышение уровня дисциплины на предприятиях	10	—	—	—	—	—	—	—	—	—	—	—	—	—
63	5.27. Проведение социологических исследований на предприятиях	10	—	—	—	—	—	—	—	—	—	—	—	—	—
64	5.28. Улучшение условий труда	10.17	—	—	—	—	—	—	—	—	—	—	—	—	—
65	5.29. Обеспечение санитарно-бытовыми точками	10	—	—	—	—	—	—	—	—	—	—	—	—	—
66	5.30. Прогнозирование производства	—	—	—	—	—	—	—	—	—	—	—	—	—	—
67.	5.31. Организация научно-исследовательских работ на предприятиях	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Key continued: 61. 5.25. Improving organization of patent-licensing operation. 62. 5.26. Increasing level of discipline at enterprises. 63. 5.27. Conducting sociological studies at enterprises. 64. 5.28. Improving labor conditions. 65. 5.29. Provision of health-sanitary stations. 66. 5.30. Production forecasting. 67. 5.31. Organization of scientific-research operations at enterprise.

B. Kolyvanov, Chief Engineer of TSPKTB NOT

V. Bolotov, Chief Plant Engineer of "Izhneftemash"

Appendix 2 to order for the "Izhneftemash" plant and TSPKTB NOT of 23 March 1971. No. 129/48

**OBJECTS OF PLAN FOR TECHNICAL CONVERSION OF EQUIPMENT AND NOPTU
[Scientific Organization of Production, Labor, and Administration],
APPOINTMENT OF TEAMS FOR OBJECTIVES**

(Operations begun 4 January 1971, terminated 20 June 1971 in
technical proposal stage)

№ объекта	Содержание объектов проектирования	ЗА Состав бригады	
		от ТПКТБ НОТ	от завода "Изнефтехмаша"
1	2	3	4
1.	Комплексное решение организационной проекции производств, труда и управления		
a)	в механосборочном цехе № 7 выпуск насосов НВ-40 и запчасти	Ланков А. П. Дмитрюк О. Н. Бородин А. М.	Горюхин В. Н. Бородин В. А. Аннаджим Н. С. Матюкин В. Е.
b)	в механосборочном цехе № 9:	Ланков А. П. Дмитрюк О. Н. Бородин А. М.	Корицкий В. В. Андрей А. Г. Богатырёв В. М. Краско В. В.
c)	в механосборочном цехе № 10 выпуск АКБ ИМ2 и запчасти	Ланков А. П. Дмитрюк О. Н. Бородин А. М.	Клименко Н. Н. Присон В. К. Останин Г. Н. Овсяненко А. Я. Макар В. Н.

Key: 1 - №. 2 - Content of plan objectives. 3 - from TSPKTB NOT. 3A - Composition of teams. 4 - from "Izhneftemash" plant. 1. Complex solution to organization of production, labor, and administration: a) in mechanical assembly shop No. 7, which produces NB-40 pumps and spare parts kit; [TSIKTB NOT] A.P. Lankov, O.N. Dmitryuk, L.M.

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Borvikov/ [Neftemash plant] V.N. Luchinikov, E.A. Berezin, N.S.

Akhmadulin, V.G. Matochkin.

b) in mechanical assembly shop No. 9; A.P. Lankov, O.N. Dmitryuk,
A.M. Borovnikov/ V.V. Korshunov, A.G. Ageyev, V.M. Bogatyrev, V.V.
Zhulyev.

c) in mechanical assembly shop No. 10, which produces AKB-3M2 and
spare parts kit: A.P. Iankov, O.N. Dmitryuk, A.M. Borovnikov/ I.I.
Klimenko, Irisov V.K. G.N. Otochin G.N., A.Ya. Ovcherenko, V.N.
Malykh.

1	2	3	4
7) в механическом цехе № 8.	Ланков А. П. Боровников В. М.	Такаев В. А. Зайцева А. В. Михайлова З. П. Лапин А. А.	
8) в механическом цехе № 12 (стандартный)	Ланков А. П. Боровников В. М.	Краев Е. Г. Модлий А. В. Емшанова Р. Н. Туров Е. В.	
2 Комплексные решения организации производства, труда и управления в цехе № 2, № 8 (электротягово-штамповочного производства и сварочных работ)	Сироткин Д. М. Херсонский В. П. Демин В. А. Ланков А. П. Боровников А. М. Карапатинский В. П.	Чураков Ю. Д. Корабелников А. П. Маслов Н. Б. Такаев В. А. Зайцева А. В. Михайлова З. П.	
3 Комплексная организация работы термического производства в цехе № 42	Приладил Б. И. Васильев В. И. Виноградов Д. И.	Златостен О. В. Чубруков В. Ф.	
4 Комплексная организация работы инструментального хозяйства и инструментального производства по цехам и службам завода	Денисов В. В. Федоров Ю. В. Шпор М. Г.	Красноперов Н. А. Касимов Ф. К. Бондарев Г. А. Мельникова Б. А.	
5 Разработка проекта внедрения новой технологии по электротяговому напылению изношенных поверхностей в деталях технологического оборудования ремонтных служб отдела главного машиностроения и главного инженерного.	Насонов М. В. Гусаков А. Я. Конторова Д. Б.	Воронко В. А. Халилов А. П. Башагурова В. В. Печетин Ф. Н. Ходзюков Ю. П.	

Key continued: d) in mechanical processing shop No. 8; A.P. Lankov,
 A.M. Borovnikov/ V.A. Takayev, A.V. Zaytseva, Z.P. Mikhaylova, A.A.
 Zaytsev.

e) in mechanical processing shop No. 12 (standards shop): A.P.
 Lankov, A.M. Borovnikov/ E.G. Krayev, A.V. Modley. R.I. Yemshanovna,
 Ye.V. Turov.

2. Complex solution to organization of production, labor, and administration in shop No. 2, No. 8 (billet-stamping production and welding operations). D.M. Sirotkin, V.I. Khelonskiy, V.A. Demin,
 A.P. Lankov, A.M. Borovnikov, V.L. Karapatintskiy / Yu.D. churakov,

A.P. Korobeynikov, N.B. Myslin, V.A. Takachev, A.V. Zaysteva, Z.P. Mikhaylova.

3. Integrated organization of heat treatment operation in shop No. 42: B.P. Prigarin, V.I. Vasili'yev, D.N. Vinogradov / O.V. Zlygostev, V.F. Chiburkov.

4 - Integrated organization of tool management and tool production by shop and shop services: V.V. Denisov, Yu.V. Fedorov, M.Ye. Shor / N.A. Krasnoperov, F.K. Kasimov, Ye.A. Zaikin, B.A. Mel'kishev.

5 - Development of project for introduction of new technology on electrodeposit application of coatings to worn surfaces in articles of technological equipment of repair services of main mechanics and power engineering section: M.V. Nasonov, A.Ya. Gus'kov, D.B. Kontorova / N.A. Krasnoperov, F.K. Kasimov, Ye.A. Zaykin, B.A. Mel'kishev.

1	2	3	4
6	Организация работ в цехе выпуска товаров народного потребления	Румянцев А. М. Ланков А. П. Боровников А. М. Абрамович Е. И.	Коршунов В. В. Шутенко В. В.
7	Разработка проектов по организации и механизации транспортных, погрузочно-разгрузочных складских работ: а) общезаводского транспорта; б) организация работ на открытых площадках и прирельсовых складах; в) организации работ внутреннего и межцехового транспорта; г) организации работ внутрицеховых и общезаводских складов; д) механизации межоперационной транспортировки деталей по участкам и цехам завода; е) организации и механизации работ по сбору, переработке и отправлению металлической стружки и др. отходов металла по цехам и участкам завода; ж) организации работ по уборке цехов и территории завода.	Синак А. Ф. Абрамова А. П. Смирнова М. С. Галопина Е. И.	Кудайко Н. М. Чукчанов А. М. Гарипов Б. С. Шутенко В. В. Мансуров В. Г. Чуреков Ю. Д. Лутянов В. Н. Такасев В. А. Коршунов В. В. Задорожна В. Н. Клименко И. И. Красноперов Н. А. Запкин Е. А. Красн. З. Г. Шутов Р. Б.
8	Разработка проектов по: а) организации оперативно-производственного планирования (ОПП); б) организации технической подготовки производства; в) организации управления производством,	Зеленецкий А. В. Майдоров О. М. Маргаритина Т. В. Дремин В. Ф. Колтеская Н. Г. Лобзюбский А. С.	Чираков А. Г. Чукчанов А. М. Караачев С. Н. Леттерен И. Ф. Шутенко В. В. Лаптур В. П.

Key continued: 6. Organization of operations in shop which produces consumer goods: A.M. Rumyantsev, A.P. Lankov, A.M. borovnikov, Ye.I. Abramovich / V.V. Korshunov, V.V. Shutenko.

7. Development of projects on organization and mechanization of transport, loading, unloading, and storage operations: a) overall plant transport; b) organization of operations in open areas and in rail storage areas; c) organization of intrashop and intershop transport; d) organization of intershop and overall plant storage operations; e) mechanization of interoperational transport of parts through sections and shops of plant; f) organization and mechanization of operations on assembly, reprocessing, and removal of

metal chip and other scrap metal in shops and sections of plant; g) organization of operations on clean-up of shops and plant territory:

A.F. Smyk, A.P. Abramov, M.S. Svorshikova, Ye.N. Galperina / N.M.

Kusayko, A.M. Chuchumashev, V.S. Gyrdymov, V.V. Shutenko, V.G.

Mansurov, Yu.D. Churakov, V.N. Luchnikov, V.A. Takayev, V.V.

Korshunov, V.N. Zabrodina, I.I. Klimenko, N.A. Krasnoperov, Ye.A.

Zaykin, E.G. Krayev, R.B. Shutov.

8. Development of projects on: a) organization of operational-production planning (OPP); b) organization of technical production preparation; c) organization of production control;

1	2	3	4
✓	d) organization of technical monitoring; e) organization of working stations; f) architectural and aesthetic plan; g) improvement of labor conditions - individual and collective; h) improvement of standardization of labor and labor standards: A.I.	Kishenkov, A. G. Val'dman, A. G. Snayevich, I. L. Kharapovich / F.M. Voroshilova, Yu. D. Churakov, V. N. Luchnikov, N. S. Akhmadulin, V. A. Takayev, Z. P. Mikhaylov, V. V. Korsunov, V. V. Zhuchayev, I. I. Klimenko, A. Ya. Ovcherenko, N. A. Krasnoperov, L. I. Kikhonov, Ye. A. Zankin, R. B. Shutov, L. G. Solomin, V. A. Pershakov, V. Ye. Ovchinnikov, B. E.	Voronilova, F. M. Churakov, Yu. D. Luchnikov, V. N. Akhmadulin, N. S. Takayev, V. A. Mikhaylov, Z. P. Korshunov, V. V. Zhuchayev, V. V. Klimenko, N. N. Ovcherenko, A. Ya. Krasnoperov, N. A. Tikhonov, L. I. Zankin, E. A. Shutov, R. B. Solomin, L. G. Pershakov, V. A. Ovchinnikov, B. E.
9.	Organization of operations to introduce intraplant management and technological хозрасчета в цехах №№ 7, 8 и 10	Шастер, А. Г.	Карасев, С. Н. Дегтерев, И. Ф. Чухнинов, А. М. Лучников, В. Н. Бердин, Б. А. Ткачев, В. А. Михайлов, З. П. Клименко, Н. Н. Овчинников, Е. И.
10.	Organization of work to improve material norms and standards.	Шастер, А. Г. Чубарев, В. А.	Чухнинов, А. М. Карасев, С. Н. Кузяков, Н. М.

Key continued: d) organization of technical monitoring; e)
organization of working stations; f) architectural and aesthetic
plan; g) improvement of labor conditions - individual and collective;
h) improvement of standardization of labor and labor standards: A.I.
Kishenkov, A.G. Val'dman, A.G. Snayevich, I.L. Kharapovich / F.M.
Voroshilova, Yu.D. Churakov, V.N. Luchnikov, N.S. Akhmadulin, V.A.
Takayev, Z.P. Mikhaylov, V.V. Korsunov, V.V. Zhuchayev, I.I.
Klimenko, A.Ya. Ovcherenko, N.A. Krasnoperov, L.I. Kikhonov, Ye.A.
Zankin, R.B. Shutov, L.G. Solomin, V.A. Pershenkov, V.Ye.
Ovchinnikov.

9. Organization of operations to introduce intraplant management and

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accounting in shops Nos. 7, 8, and 10: A.L. Shister / S.N. Karachev,
I.F. Degtyarev, A.M. Chucumashev, V.N. Luchnikov, B.A. Berezin. V.A.
Takayev, Z.P. Mikhaylova, I.I. Kliwenko, G.P. Otochin.

10 . Organization of operations to improve material standards: A.I.
Shakhter, V.A. Chimbarev / A.M. Cauchumashev, S.N. Karachev, N.H.
Kusayko.

1	2	3	4
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11. Разработка проектов по организации работ:
 а) гальванических покрытий;
 б) лакокрасочных покрытий;
 в) консервации деталей и изделий по цехам и участкам завода.

Абрамович Г. И.
 Коршенистейн Р. Е.
 Шварц И. К.
 Городина Н. В.

Зигостев О. В.
 Гомоюнова А. К.

12. Разработка проектов по механизации бухгалтерского учета:
 а) механизация финансовых и расчетных операций;
 б) механизация учета труда и заработка;
 в) механизация учета материальных ценностей;
 г) механизация учета готовой продукции, ее отгрузки и реализации;
 д) механизация учета основных средств

Хищевский В. И.
 Шикова Л. А.

Юран И. С.
 Кусайко Н. М.
 Каракеев С. Н.
 Дегтярев И. Ф.
 Чучумашев А. М.
 Сопрыгин В. В.

Key continued: 11. Development of projects on organization of following operations: a) electropolating; b) paint and varnish coatings; c) preservation of parts and articles throughout shops and sections of plant: Ye.I. Abramovich, R.E. Kirshenshteyn, I.K. Shvyrayev, N.V. Goroshina / O.V. Zygostev, A.K. Gomoyunova.

12. Development of projects on mechanization of bookkeeping: a) mechanization of finance and calculational operations; b) mechanization of labor and wage accounting; c) mechanization of accounting for material values; d) mechanization of accounting for annual production, shipment, and sales; e) mechanization of accounting for fixed assets: V.I. Koshchevskiy, L.A. Shikova / I.S. Yuran, N.M. Kusaykov, S.N. Karachev, I.F. Degtyarev, A.M. Chuchumashev, V.V. Soprygin.

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B. Kolyvanov, Chief Engineer for ISPCTB NOT

V. Bolotov, Chief Engineer of "Izneftemash" Plant

Appendix 3 to order of "Iznefte mash" plant and TsPKTB NOT of 23
March 1971, No. 129/48

TECHNICAL ASSIGNMENT ON DEVELOPMENT OF INTEGRATED PROJECT TO INCREASE
EFFECTIVENESS OF PRODUCTION BASED ON SYSTEMATIC TECHNICAL CONVERSION
OF EQUIPMENT AT ENTERPRISE AND INTRODUCTION OF SCIENTIFIC PRINCIPLES
IN THE ORGANIZATION OF PRODUCTION, LABOR, AND ADMINISTRATION

ORDER PLACED BY: Izhevskiy Petroleum Equipment Plant

ORDER FILLED BY: Central Planning, Designing, and Technological
Office on Scientific Organization of Production, Labor, and
Administration (TsPKTB NOT) and Izhevskiy "Neftemash" Plant

The present technical assignment calls for development of a complex project on scientific organization of production, labor, and administration. It is directed at assuring production specified by the 1975 plan, taking into consideration an increase of 1.7-1.9 (as compared to the volume of production in 1970) without an increase in numbers.

Development of the project must assure attainment of the technical, economic, and organizational indicators of plant (shop, section) development stated in the "Chart of Technical and Economic Level and Development of Plant," confirmed by the Ministry of Chemical Machinery.

The integrated project must encompass all aspects of production: technical, technological, economic, and organizational-social.

The complex project must include all types of operations called for by the "System to Improve Effectiveness of Production Based on Systematic Technological Conversion of Equipment at Enterprises and Introduction of Scientific Principles in Organization, Production, Labor, and Administration," developed by the TsPKTB NOT according to order [list] (Appendix 1 to present order).

With respect to the listed operations performed by TsPKTB NOT in conjunction with the plant, their content and deadlines must be specified 10 days before the beginning of operations and must be formulated in the appropriate two-page document.

The project is developed in three stages: technical proposal,

technical-working plan, and implementation.

In the technical proposal stage actual production is analyzed by TSPKTB NOT specialists calling upon aid from plant workers. Organization of operations, coordination, and confirmation of the complex problem is done in accordance with the methodological materials of the "System" of TSPKTB NOT.

To assure timely and high-quality achievement of the planned operations technical specifications are drawn up for development of the integrated project.

B. Kolyvanov, Chief Engineer of TSPKTB NOT

V. Bolotov, Chief Engineer of "Izneftemash" Plant

Appendix 4 to order of "Izunertemash" plant and TsPKTB NOT of 23
March 1971, No. 129/48

INSTRUCTIONS ON USE OF LEADING EXPERIENCE IN ORGANIZATION OF
PRODUCTION, LABOR, AND ADMINISTRATION

The system of integrated technical equipment conversion and introduction of scientific organization of production, labor, and administration, which assures performance of higher monitoring tasks for technical and economic indicators and the higher standards in the production and planning of the scientific organization of labor, includes development of measures on rational organization of the labor process at the working station, section, and shop at the enterprise. NOT [Scientific Organization of Labor] plans are carried out in accordance with the "Main Requirements for Scientific Organization of Labor During Planning of Enterprises, Technological Processes, and Equipment" (M. Scientific Research Institute of Labor).

Teams involved in the creation of the plan must use accumulated progressive experience of individual shops in the "Izhneftemash" plant, plants of the Ministry of Chemical Machinery, enterprises in

other branches of industry, and also foreign experience for application at the "Izhnertemash" plant (see enterprises and progressive experience).

Enterprises and progressive experience.

1 Преприятие	2 Содержание передового опыта
3 Горьковский автомобильный завод	Широкое внедрение технически обоснованных норм на механизированных, автоматизированных и ручных операциях. Премирование рабочих и инженерно-технических работников за снижение трудоемкости продукции.
4 Уралмашзавод, электростальский завод тяжелого машиностроения	Разработка и внедрение нормативов и технически обоснованных норм времени в единичном и мелкосерийном производстве
5 Клинский завод искусственного и синтетического волокна	Разработка и внедрение нормативов для нормирования труда вспомогательных рабочих
6 Минский и Белорусский автомобильные заводы	Установление технически обоснованных норм выработки на новую продукцию с момента ее окончания

Key: 1 - Enterprise; 2 - Content of progressive experience. 3 - Gor'kiy automobile plant / Broadscale implementation of technically justified standards in mechanized automobile and manual operations. Awards to workers and engineering and technical personnel for reducing labor involved in production. 4. Urals machine plant, which produces electric steel for heavy machine building / Development and introduction of standards and technically justified time standards in unit and small-series production. 5. Klinskiy artificial and synthetic fiber plant / Development and introduction of standards for normalization of labor in auxiliary operations. 6. Minsk and Byelo Russian automobile plants / establishment of technically justified standards for new production from the moment that it is mastered.

7 Taganrog plant "Krasnyy kotlyarnyy"	Замена сдельной оплаты труда временем-премиальной с установлением нормированных заданий
8 Краснодарский завод [word illegible]	Снижение трудоемкости изделий и совершенствование нормирования на предприятии
9 Свердловск "Кнि�даш" завод	Повышение уровня использования оборудования транспортных коммуникаций производственных подразделений. Совершенствование заготовительного, механокомбатывающего, механосборочного, сварочного, гальванического, окрасочного, термического и инструментального производства. Организация работы внутризаводского транспорта и складских работ. Нормирование материальных ресурсов на производство продукции. Нормирование хозрасчетных отношений между участками и цехами. Совершенствование внутризаводской специализации, технологической подготовки производства, оперативно-производственное планирование, учет и диспетчерование. Совершенствование организаций обслуживания рабочих мест. Совершенствование нормирования труда.
10 Балашинский завод «40 лет Октября»	Система комплексного внедрения ИОТ. Организация работ БИХ. Разработка мероприятий по высвобождению вспомогательных рабочих. Внедрение лимитной системы использования транспорта. Организация работ внутризаводского транспорта. Организация управления производством труда и управления
11 Киевский арматурно-машиностроительный завод	Организация рабочих мест стаконников и слесарей. Специализация рабочих мест сборщиков. Технологический классификатор. Применение баллонов и вакуумов для холдинговой листовой штамповки. Применение малоотходной штамповки. Применение специализированных средств для сборки узлов. Механизация крепления власовых и антидрибинговых деталей. Организация работ по изготовлению спиральных пружин и термообработка их

Key continued: 7. Taganrog "red boiler-maker" plant / replacement of piece-work wage system by time-award system with established standardized assignments. 8. Krasnodar [word illegible] plant / Reduction in labor spent on items and improvement of standards for enterprise. 9. Sverdlovsk "Knidash" plant / Increasing utilization level of transport links, work area. Improving billet, mechanical

processing, mechanical assembly, welding, electroplating, painting, heat, and tool operations. Organization of work on intraplant transport and storage operations. Standardization of material resources for production. Standardization of accounting transactions between sections and shops. Improvement of interplant specialization, technical production preparation, operational-production planning, accounting, and dispatching. Improvement in organization of services to working stations. Improvement in labor standards. 10.

Balashinkhinskiy "40 years since October" plant / System of integrated implementation of NOT. Organization of BIKh [Translator note: unidentified acronym not expanded in text]. Development of measures to free auxiliary workers. Introduction of limit system of transport use. Organization of operations for interplant transport. Determining level of organization of production, labor, and administration. 11. Kiev machine building and fittings plant / Organization of working stations for lathe operators and fitters. Specialization of working stations for assemblers. Technological classifier. Use of blocks and packets for cold sheet stamping. Use of low-scrap stamping. Use of specialized methods for assembling units. Mechanization of gluing for flat and cylindrical parts. Organization of operations on preparation of spiral springs and their heat treatment.

12 Свердловский машиностроительный завод им. Воровского

Балансировка системы оценки ежедневной работы подразделений завода

13 Московский газовый сконцр.

Организация рабочих мест в механической мастерской. Специализация универсальных станков путем применения дополнительных устройств для однородных работ.
Организация и механизация работ в центральном магазине (блока складов).
Бюджетированием ходячий лист расчет.
Организация работ инструментального логистика.
Организация работ информационно-вычислительного центра

14 Кишиневский насосный завод им. Фрунзе

Поточные линии и пределено замкнутые участки механической обработки деталей, а также постоянная конвейерная сборка узлов и изделий. Организация работ плазменной резки.

15 Сумський машинобудівний завод ім. Фрунзе

Работы по повышению производительности труда за счет использования внутривозовых резервов производства на базе внедрение НОТ во все сферы деятельности предприятия.
Работы по повышению уровня культуры производства.
Совершенствование системы и методов работы аппарата управления.
Повышение уровня технологии механообрабатывающего производства.
Организация работы централизованных внутривозовых перевозок

Key continued: 12. Sverdlovsk machine building plant im. Vorovskiy / Point system for evaluating daily work of plant subsections. 13. Moscow "Compressor" plant / Organization of working stations in mechanical shop. Specialization of universal machines through use of additional attachments for operations. Organization and mechanization of operations in central warehouse (warehouse block). Intraplant accounting. Organization of tool management operations. Organization of data computer center operations. 14. Kishinevskiy pump plant im. Prunze / Assembly line and closed sections for mechanical processing of parts, point conveyer assembly of units and items, organization of plasma cutting operations. 15. Sumy machine building plant im. Frunze / Operations on increasing productivity of labor through use of intraplant production reserves based on introduction of NOT in all

spheres of enterprise activity. Operations to increase level of production standards. Improvement in system and methods of administrative apparatus. Increasing level of technology in mechanical processing. Organization of project for centralized intraplant transport.

B. Kolyvanov, Chief Engineer of ISPCTB NOT

V. Bolotov, Chief Engineer of "Izumnefte mash" plant

Appendix 5 to order of "Izhevtemash" plant and TSPKTB NOT of 23
March 1971, No. 129/48

TECHNICAL AND ECONOMIC INDICATORS FOR PLANT

№ п/п	Наименование показателей	Единица измерения	№ производственные подразделения			Но мбров	
			Часть	№ п/ч			
				Основной	Вспомогательный		
1	2	3	4	5	6	7	

Абсолютные показатели

1 Среднегодовая производственная мощность	млн. руб.	x	x	x	x	x
2 Выпуск валовой продукции	тыс.	x	x	x	x	x
3 Выпуск товарной продукции	тыс.	x	x	x	x	x
4 Общая величина основных фондов завода, в том числе	млн. руб.	x	x	x	x	x
а) здания и сооружения (с водопроводом, канализацией, отоплением, вентиляцией и пр.)	млн. руб.	x	x	x	x	x
б) оборудование (технологические, мерительные, подъемно-транспортные и пр.)	млн. руб.	x	x	x	x	x

Key: 1 - №. 2 - Name of index. 3 - Unit of measure. 4 - Section. 4A - Production subdivisions. 5 - main. 5A - Shop. 6 - auxiliary. 7 - By plant.

Absolute indices. 1. Mean annual productive capacity / millions of rubles. 2. Gross output / thousands of rubles. 3. Commodity output / thousands of rubles. 4. Total amount of fixed assets of plant, including / millions of rubles. a) buildings and installations (plumbing, heating, ventilation, etc.) / millions of rubles. b)

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equipment (technological, power, lifting and transport, etc.) /
millions of rubles.

1	2	3	4	5	6	7
5	Общая площадь помещений завода	тыс. м ²	x	x	x	x
	в том числе					
a)	производственная	%	x	x	x	x
b)	спомогательная	%	x	x	x	x
c)	служебно-бытовая	%	x	x	x	x
6	Оборудование					
a)	общее количество технологического оборудования,	шт.	x	x	x	x
	в том числе металло режущего,		x	x	x	x
	из него					
	специального		x	x	x	x
	автоматов и полуавтоматов		x	x	x	x
b)	общее количествоспомогательного оборудования		x	x	x	x
7	Среднеписьмовая численность промышленного производственного персонала	тыс.ч	x	x	x	x
	в том числе					
a)	рабочих		x	x	x	x
	из них основных производственных		x	x	x	x
b)	промышленно-производственного персонала,		x	x	x	x
	из него ИТР и служащих		x	x	x	x

Key continued: 5. Total area occupied by plant / thousands of m².

this includes: a) productive. b) auxiliary. c) service. 6. Equipment.

a) total amount of technological equipment / units. this includes metal-cutting equipment, of this - specialized, automatic and semiautomatic machines. b) total amount of auxiliary equipment. 7 - Mean established number of industrial-production personnel / men, includes: a) workers, of these - main production workers. b) other industrial-production personnel. of these engineering and technical workers and service personnel.

1	2	3	4	5	6	7
8. Себестоимость товарной продукции	т.р.	%	%	%	%	%
9. Балансовая прибыль	т.р.	%	%	%	%	%
10. Режим работы	код. смен	%	%	%	%	%
Относительные и удельные показатели						
1. Рентабельность работы завода (отношение балансовой прибыли к основным и оборотным фондам)	%					
2. Затраты на 1 рубль товарной продукции	руб					
3. Выпуск на 1 работающего промышленного производственного персонала	руб					
4. Выпуск на 1 рубль основных фондов (фондоотдача)	руб					
5. Выпуск, приходящийся на 1 м ² производственной площади	т.р.	%	%	%	%	%
6. Выпуск на 1 единицу металлоизделия обработки	т.р.	%	%	%	%	%
7. Энергоемкость производственного рабочего	квт					
8. Откат рабочих механизированным трактором	%					
9. Удельный вес рабочих, занятых тяжелыми физическими трудами	%					
10. Средний разряд работ	разряд	-	-	-	-	

Key continued: 8. cost of commodity output / thousands of rubles. 9.

Balance profits thousands of rubles. 10. Work regime / number of shifts.

Relative and specific indices. 1. Profitability of plant work (ratio of balance profit to fixed capital and circulating capital). 2. Expenditures per 1 ruble of commodity of production / rubles. 3. Output per one industrial-production worker / rubles. 4. Output per one ruble fixed capital (return on investment) / rubles. 5. Output for 1 m² productive floor space / thousands of rubles. 6. Output per 1 unit metal-cutting equipment / thousands of rubles. 7. Energy per productive worker / kw. 8. workers engaged in mechanized labor. 9.

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Specific weight of workers occupied in heavy physical labor. 10.

Average category of operations / category.

1	2	3	4	5	6	7
11.	Средний разряд рабочих	разряд				x
12.	Коэффициент использования производственных мощностей	%	x	x	x	x
13.	Коэффициент сменности	%	x	x	x	x
14.	Средний коэффициент загрузки металлоизделий оборудования	%	x	x	x	x
15.	Коэффициент использования металла	%	x	x	x	x

Key continued: 11. Average category of workers / category. 12.

Utilization factor of productive capacities. 13. Shift coefficient.

14. Average discharge coefficient of metal-cutting equipment. 15.

Utilization factor of metal.

Note: The "x" sign means that the name of the index refers to a given section, shop, and enterprise.

B. Kolyvanov, Chief Engineer of TSPKTB NOT

V. Bolotov, Chief Engineer of "Izaneftemash" plant

Appendix 6 to order of "Izanneftemash" plant and TSPKTB NOT of 23
March 1971, No. 129/48

**INDICES FOR LEVEL OF ORGANIZATION OF PRODUCTION, LABOR, AND
ADMINISTRATION WHICH DESCRIBE SECTIONS, SHOPS, AND ENTERPRISES WITH
A HIGH LEVEL OF ORGANIZATION.**

Index No. 1	Наименование показателя 2	Участок 3	Индекс 4		Примечание 5
			Основной номинальный индекс	Всего оценка индекс	
1	Уровень равнотока	X	X	-	X
2	Уровень качества	X	X	-	X
3	Уровень охвата техническими нормами труда	X	X	X	X
4	Уровень бесработных норм труда	X	X	X	X
5	Уровень использования рабочего времени	X	X	X	X
6	Уровень охвата рабочих места инновационным трудом	X	X	X	X
7	Уровень соблюдения санитарно-гигиенических и эстетических условий труда	X	X	X	X
8	Уровень трудовой дисциплины	X	X	X	X
9	Уровень безопасности труда	X	X	X	X
10	Уровень стабильности кадров	X	X	X	X
11	Уровень организации инструментальной базы	-	-	-	X
12	Уровень организации транспортно складских работ	-	-	-	X
13	Уровень организации технического контроля	-	-	-	X

Key: 1 - No. 2 - Name of Index. 3 - Section. 4 - Shop. 4A - primary.
5 - secondary. 6 - Enterprise.

1. Level of even flow. 2. Quality level. 3 - Level of coverage by

technically justified norms. 4. Specific weight of workers who achieve production norms. 5. Level of utilization of worker time. 6. Level of worker coverage by mechanized labor. 7. Level of observation of health, hygienic, and aesthetic working conditions. 8. Level of labor discipline. 9. Level of labor wages. 10. Level of stability among personnel. 11. Level of organization of tool servicing. 12. Level of organization and transport and storage operations. 13. Level of organization in technical monitoring.

1	2	3	4	5	6
14	Уровень организации учета производства	-	-	-	x
15	Уровень культурно-бытового обслуживания на производстве	-	-	-	x
16	Уровень организации работ по НОТ	-	-	-	x
17	Уровень общего рабочего обучения основам НОТ	x	x	x	x
18	Общий показатель уровня организации производственного труда и управления	x	x	x	x

Key continued: 14. Level of organization in production accounting.

15. Level of general production services [amenities]. 16.

Organization level of NOT [Scientific Organization of Labor]

operations. 17. Level of workers trained in NOT principles. 18.

General index of level of organization of production, labor, and administration.

NOTE: The "x" sign means that the name of the index refers to a given section, shop, and enterprise.

B. Kolyvanov, Chief Engineer of TspKTB NOT

V. Bolotov, Chief Engineer of "Izhneftemash" plant

Appendix 7 to order of "Iznefte mash" plant and TsPktb NOT of 23
March 1971, No. 129/48

ORIGINAL BASES FOR ANALYSIS AND DEVELOPMENT OF INTEGRATED PROJECT ON
TECHNICAL EQUIPMENT CONVERSION OF NOPTU

1. The problem of improving the technical, economic, and organizational aspects of production is being solved by the collectives of the "Iznefte mash" plant and TsPktb NOT with close connection between scientific and technical progress and the introduction of scientific principles into the organization of production, labor, and administration.
2. TsPktb NOT is conducting its operations within the framework of the planned assignment concerning plant reconstruction, developed by the Alma-Ata "Gidrokhimash" Institute and in accordance with a task assigned by the plant for certain sections and planned objectives.
3. The integrated project is based on the norms chart of the technical and economic level and development for the plant, which covers all aspects of production: technical, technological, economic,

and organizational-social and is aimed at a sharp increase in the effectiveness of the production-labor activity of the collectives. The composition and order of operations to improve all aspects of production is determined by parts I and II of "System to Increase Effectiveness of Production Based on Systematic Technical Conversion of Equipment and Introduction of NOPTU," while the structure and order in analyzing the level of organization of the existing production and developing technical proposals is determined by the guidance materials of part III.

B. Kolyvanov, Chief Engineer of TSPKTB NOT

V. Bolotov, Chief Engineer of "Izanneftemash" plant

Appendix 8 to order of "Izhnefte mash" plant and TSPKTB NOT of 23
March 1971, No. 129/48

DETERMINING LEVEL OF ORGANIZATION OF PRODUCTION, LABOR, AND
ADMINISTRATION

1. For primary production shops, secondary shops and production-technical, economic, and commercial services the plant determines the appropriate levels of organization of labor and production processes on a quarterly basis.

The first determination will be made in the first quarter of 1971.

2. Mathematical determination of the levels of organization of the enterprise and organization within shops, sections, and in plant services is done in accordance with Tables 1, 2, and 3 of methodological materials, part I of "System to Improve Effectiveness of Production Based on Systematic Technical Equipment Conversion at Enterprises and Introduction of Scientific Principles into Organizations of Production, Labor, and Administration."

3. The actual statistical accounting of shops and sections, performed by existing plant personnel, is used to calculate the level of NOPTU, both with respect to individual elements and to the general coefficient.

4. To compare results and trends in NOPTU elements a list of coefficients in a certain order both for the shops and for sections and services.

5. The list of services responsible for calculation of the elements of the level of organization in production, labor, and administration and their planning and accounting for main production is shown in Table 1.

99ab 6. The order of gathering and processing raw data and representation of accounting for auxiliary production is shown in Table 2.

Note. 1. Processing of raw data, the order of representation of accounting with respect to volume and deadlines is done just as in the main production shops.

2. Reduced tables of NOPTU coefficients are issued to the labor and wages department, so that questions concerning rewards to

engineering, technical, and service personnel can be examined, to the mass-production commission of the main committee of the professional union which analyzes the final result of socialist competition among shops and departments, to the plant directorship, and to the Party Committee.

The NOT service reports the level of each element and the general shop level to the shops so that it can be recorded and displayed in the shops and throughout the plant.

7. Because of the integrated manner in which the NOPTU is introduced, it is assumed that scientific evaluations of the activity of plant subsections cover not only productive and auxiliary shops, but also all of the main production and technical, economic, and organizational subdivisions of the plant.

For a deeper analysis of the work performed in the production and technical services of the plant and the development and introduction of measures which enable an increase in the volume and quality of these operations, a general index - "general performance level" - is introduced, which describes the quantity, quality, and timeliness with which assignments are carried out by each section (service) in the plant.

The performance level of each service, depending on the type of service, is determined on the basis of the list of elements shown in Table 3. Each coefficient can take a value from maximal (equal to one) to minimal (equal to zero). If during calculation the value of the coefficient is greater than one or less than zero, then it is assumed equal to 1 or 0, respectively.

8. Gathering of the initial indices, calculation of coefficients, and the compilation and issuing of information is done by the plant services indicated in Table 4.

Note. The plant services indicated in Table 4 issue information on the form of NOT-13 (existing at the plant) to the NOT service on a monthly basis within established deadlines. ^{TP} 9. On the basis of materials presented the NOPTU service compiles a summary report on form NOT-15 (existing at the plant) and issues copies of this report to:

- the plant director;
- the chief plant engineer;
- the general plant balance commission;

- the main committee or the professional union (through the labor and wages department) for registration in analyzing the final results of socialist competition among the departments and services of the plant.

10. Work on improvement of the organization of labor and administration directed at increasing the performance level is done in several stages:

- determination of the actual level of element and general coefficient of the performance level in the department;
- analysis of level and necessary additional studies for the purpose of detecting reserves to increase the general performance level;
- development and introduction of measures on increasing the performance level which have been confirmed by the plan.

Analysis of the main elements and factors of the performance level and development of measures to increase it is done in the services and departments by collective forces and is directed by department heads.

Analysis of the main elements and factors of the performance level and development of measures is generally carried out in all directions of department work. Here attention is focused on the NOT elements with low coefficients, measures for which are developed with particular care and thoroughness. The developed measures are transformed into NOT plans for the departments, are coordinated with the NOT service, and are confirmed by the chief engineer.

11. Obtaining information in digital form on the state of the organization in the shops, sections, and departments is not the only goal. These data are examined in the capacity of a rapid analysis for determining the directions which will be taken in further development of measures to increase the levels of individual elements in the scientific organization of production, labor, and administration, primary and secondary production shops and the performance level in the services. The most important link here is not the actual determination of the levels, but development and realization of the measures themselves, which are directed at increasing these levels and an accurate system for observing and monitoring performance, both with respect to the list of measures to be taken and in obtaining the economic effectiveness and growth in labor productivity aimed for.

B. Kolyvanov, Chief Engineer of TSPKTB NOT

V. Solotov, Chief Engineer of "Izhneftemash" plant

Table 1 to Appendix 8.

List of services responsible for calculating elements for a level of scientific organization of production, labor, and administration, their planning, and primary production accounting.

№ п.п.	Наименование элементов научной организации труда	Кто проин- дентует ини- циативу или учет	Кто опреде- ляет коэф- фициент по штук	Кто пред- ставляет расчет по форме НОТ-10	Кто состав- ляет изме- нение по форме НОТ-11
		1	2	3	4
7 К ₁	Уровень ритмичности производства	ПДБ	ПДБ	ПДО	ПДО
8 К ₂	Уровень качества продукции	БТСК	БТСК	ОТК	ОТК
9 К ₃	Уровень охвата технически обоснованными нормами	БТИЗ	БТИЗ	ОТиЗ	ОТиЗ
10 К ₁	Удельный вес работающих, выполнивших нормы выработки	БТИЗ	БТИЗ	ОТиЗ	ОТиЗ
11 К ₁	Уровень использования месячного фонда рабочего времени	окон- чист цеха	окон- чист цеха	ОТиЗ	ОТиЗ
12 К ₁	Уровень использования скрочного фонда рабочего времени	БТИЗ	БТИЗ	ОТиЗ	ОТиЗ
13 К ₁	Уровень трудовой дисциплины	таб. цеха	ОК	ОК	ОК

Key: 1 - №. 2 - Name of elements in scientific organization of labor. 3 - Who is responsible for change or accounting. 4 - Who determines coefficient for shop. 5 - Where is calculation for NOT-10 form presented. 6 - Who makes the change in form NOT-11. 7 - K₁ - Level of even flow in production / PDB [Production dispatch office] / PDO [Production dispatch department]. 8 - K₂ - Quality level of production / BTsK [Office of central cataloging (or central committee)] / OTK [Department of technical control]. 9 - K₃ - Level of coverage by technically justified norms / BTiZ [Labor and wages

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office] / OTiZ [Labor and wages department]. 10 - K₄ - Specific weight of workers who meet work norms / BTiZ / OTiZ. 11 - K₅ - Utilization factor of monthly worker time fund shop economists / OTiZ. 12 - K₆ - Utilization factor of shift fund of working time / BTiZ / OTiZ. 13 - K₇ - Level of labor discipline / shop tab. OK [Design department].

9918 Key continued: 14 - K₈ - Level of observation of sanitary-hygienic and aesthetic conditions for labor / TB [Technical] office. a) including: b) noise level. c) level of illumination. d) temperature level. e) level or state of air. f) level of production amenities / shop and plant commissions on labor amenities. g) level of organization at working station / according to appendix. 15 - K₉ - Labor safety level / TB office. 16 - K₁₀ - Stability level of personnel / shop tab. / OK. 17 - K_{HOT} - General NOPTU level index / NOT service.

1	2	3	4	5	6
14 K ₈ Уровень санитарно-гигиенических и эстетических условий труда.		бюро ТБ	бюро ТБ	бюро ТБ	бюро ТБ
а) в том числе:					
б) уровень шума		бюро ТБ	бюро ТБ	бюро ТБ	бюро ТБ
с) уровень освещения		бюро ТБ	бюро ТБ	бюро ТБ	бюро ТБ
д) уровень температуры		бюро ТБ	бюро ТБ	бюро ТБ	бюро ТБ
е) уровень состояния воздушной среды		бюро ТБ	бюро ТБ	бюро ТБ	бюро ТБ
ф) уровень культуры производства		пеховская и ополесская комиссии по культуре производства			
г) уровень организации рабочих мест		согласно положению			
15 K ₉ Уровень безопасности труда		бюро ТБ	бюро ТБ	бюро ТБ	бюро ТБ
16 K ₁₀ Уровень стабильности кадров	таб. пехи	OK	OK	OK	
17 Кнот Общий показатель уровня НОПТУ		--	--	сумма НОТ	

Table 2 to Appendix 8.

Order for gathering and processing raw data and representation of accounting for secondary production.

№ п.п.	Наименование элементов научной организации труда	Кто произво- дит измерение, учет и опре- деление уровня	Кому пред- ставляется отчет	Кто обобщает и составляет изложение в НОПТУ
1	2	3	4	5
6 K ₂₁	Уровень ритмичности производства	ПДО	ПДО	ПДО
7 K ₂₂	Уровень качества продукции	ОТК	ОТК	ОТК
8 K ₂₃	Уровень использования месячного фонда рабочего времени	экономист ОТиЗ	ОТиЗ	ОТиЗ
9 K ₂₄	Уровень квалификации ИТР	ОК	ОК	ОК
10 K ₂₅	Уровень трудовой дисциплины	табельщик ОК	ОК	ОК
11 K ₂₆	Уровень соблюдения санитарно-гигиенических условий труда	бюро ТБ	бюро ТБ	бюро ТБ
	а) уровень шума	бюро ТБ	бюро ТБ	бюро ТБ
	б) уровень освещенности	бюро ТБ	бюро ТБ	бюро ТБ
	в) уровень температуры	бюро ТБ	бюро ТБ	бюро ТБ
	г) уровень состояния воздушной среды	бюро ТБ	бюро ТБ	бюро ТБ
	д) уровень культуры производства	шаховые и заводские комиссии		
12 K ₂₇	Уровень безопасности труда	бюро ТБ	бюро ТБ	бюро ТБ
13 K ₂₈	Уровень стабильности кадров	табельщик	ОК	ОК
14 K ₂₉	Общий показатель уровня НОПТУ			служба НОП

Key: 1 - №. 2 - Name of element of scientific organization of labor.

3 - Who measures, records, and determines the level. 4 - To whom is the report presented. 5 - Who generalizes and compiles the NOPTU report. 6 - K₂₁ - Level of even flow of production. 7 - K₂₂ - Level of production quality. 8 - K₂₃ - Utilization level of monthly working time fund / OTiZ economist. 9 - K₂₄ - Skills level of engineering and technical personnel. 10 - K₂₅ - Level of labor disciplines / OK time-keeper. 11 - K₂₆ - Level of observation of sanitary-hygienic

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labor conditions. a) noise level. b) level of illumination. c) temperature level. d) level or state of air. e) level of production amenities / shop and plant commissions. f) K_{27} - Level of labor wages. g) K_{28} - Level of personnel stability / time-keeper. 12 - K - General index for NOPTU level.

3 to Appendix 8.

Standard calculation of NOT elements to determine general performance levels.

1 коэф. факт.	2 Наименование элементов уровня исполнительности	3 Сокращение наименование элементов														
		4	5	6	7	8	9	10	11	12	13	14	15	16	17	
		ОСН	ОГМ	ОМС	ОНО	ОДА	ОПО	ОДО								
21 K ₁₁	Техническая подготовка производства	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
19 K ₁₂	Качество продукции	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
20 K ₁₃	Оперативность ведения производства	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
21 K ₁₄	Планы НОТ и ТИЗ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
22 K ₁₅	Использование оборотных средств	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
23 K ₁₆	Квалификация ПТР	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
24 K ₁₇	Трудовая дисциплина	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
25 K ₁₈	Качество реализованных металлоизделий	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
26 K ₁₉	Творческая активность работников	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
27 K ₂₀	Стабильность кадров	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28 Кодиф. №:	Общий	График	Индивидуальный	уровни	исполните-	льности	-	-	-	-	-	-	-	-	-	-

Key: 1 - Coefficient. 2 - Name of elements in performance level. 3 - Department abbreviation [Translator note: Abbreviations not expanded in following series have not been positively identified.] 4. OGT - Chief technologist's department. 5 - OSN - Standardization department Sa - OGS. 6 - OGMet - Chief metallurgist's department. 7 - INO. 8 - OMIL. 9 - OTiZ - labor and wages department. 10 - PDO - Production dispatch office. 11 - PPO - Production planning department. 12 - ONOT - Department of scientific organization of labor. 13 - OGE - Chief economist's department. 14 - OGM. 15 - OMTS - Materials and equipment supply department. 16 - CVK. 17 - OKI. 18 - K₁₁ - Technical preparation of production. 19 - K₁₂ - Quality of production. 20 - K₁₃

- Promptness of introduction of production. 21 - K₁₄ - NOT and TNZ plans. 22 - K₁₅ - Use of circulating capital. 23 - K₁₆ - Qualification of engineering and technical personnel. 24 - K₁₇ - Labor discipline. 25 - K₁₈ - Quality of metal scrap. 26 - K₁₉ - Creative activity of workers. 27 - K₂₀ - Personnel stability. 28 - K_{HOT UC} - General coefficient of performance level.

Note: "X" means that performance level element does not pertain to given department.

Table 4 to Appendix 8.

**COLLECTION OF ORIGINAL INDICATORS, COEFFICIENT CALCULATIONS,
COMPILATION AND ISSUE OF REPORTS TO PLANT SERVICES**

Key: 1 - name of coefficient, 2 - elements of performance level, 3 - services responsible for calculation of coefficient and issuing reports to NOU.

K₁₁ - Technical preparation or production / BTPP [office of preparation of production].

K₁₂ - Quality of production / OTK [dept. of technical control].

K₁₃ - Timeliness in introduction of production / PDO [production dispatch dept.].

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K₁₄ - Plan for NOT measures and technical equipment conversion of plant / NOT service.

K₁₅ - Use of circulating funds / FO [finance dept.].

K₁₆ - Qualification of Engineering and technical personnel / OK [personnel dept.].

K₁₇ - Labor discipline / OK.

K₁₈ - Quality of metal scrap realized / main bookkeeper.

K₁₉ - Creative activity of workers / OTiZ [dept. of labor and wages].

K₂₀ - Stability of personnel / OK.

K_{NOT NC} - General performance level / NOT service.

Обозначен коэффициент	Элементы уровня и ответственности	Службы, отвечающие за учет коэффициента и выдающие инвещения в НОУ
1	2	3
К.	Техническая подготовка производства	БТИП
К	Качество продукции	ОТК
К.	Организация ведения производства	ПДО
К. ₁	Нормативные мероприятия НОУ и техническое перевооружение завода	Служба НОУ
К. ₂	Неподходящие оборотных средств	ФО
К. ₃	Квалификация НТР	ОК
К. ₄	Трудовая дисциплина	ОК
К. ₅	Качество реализованных металлоотходов	гл. бух
К. ₆	Творческая активность работников	ОТвЗ
К. ₇	Стабильность кадров	ОК
Код: ис	Общий уровень исполнительности	Служба НОУ

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NAVORDSTA (50L)	1		
NASA/KSI	1		
AFIT/LD	1		
LLL/Code L-389	1		
NSA/1213/TDL	2		